

5 The apparatus of claim 1, further comprising means for decoding said encoded digital picture signal as a function of said picture type data.

7. The apparatus of claim 1, wherein said digital picture signal includes an ancillary area in which said picture type data is included followed by a video area in which picture data representing a picture of said digital picture signal is included.

9. An apparatus for processing an encoded digital picture signal, comprising:

means for including said picture type data in a data
40 identification area of said decoded digital picture signal
to produce an output signal.

11. The apparatus of claim 9, further comprising means for encoding said decoded digital picture signal as a function of said picture type data.

13. The apparatus of claim 9, wherein said digital picture signal includes an ancillary area in which said picture type data is included followed by a video area in which picture data representing a picture of said digital picture signal is included.

15. A method of processing a digital picture signal, comprising the steps of:

receiving a digital picture signal having picture type data included in a data identification area of said digital picture signal indicating one of intrapicture coding, predictive coding and bidirectionally predictive coding for respective pictures represented by said digital picture signal, said picture type data identifying an encoding structure of a group of pictures represented by said digital picture signal and further identifying each respective picture within said group of pictures so as to identify the type of encoding of said digital picture signal for each said picture; and

encoding said digital picture signal as a function of said picture type data to produce an encoded digital picture signal.

16. The method of claim 15, wherein said picture type data identifies previous types of coding for said respective pictures represented by said digital picture signal.

17. The method of claim 15, wherein said step of receiving is carried out by extracting said picture type data from said digital picture signal.

18. The method of claim 15, wherein said picture type data is included in a data identification area of at least a vertical blanking interval of said digital picture signal.

19. The method of claim 15, further comprising the step of decoding said encoded digital picture signal as a function of said picture type data.

20. The method of claim 15, wherein said step of encoding is carried out by detecting motion vectors between said pictures represented by said digital picture signal as a function of said picture type data; choosing one of intracoding, forward predictive coding, backward predictive coding and bi-directionally predictive coding said digital picture signal as a function of said picture type data; and variable length encoding said picture type data in said encoded digital picture signal.

21. The method of claim 15, wherein said digital picture signal includes an ancillary area in which said picture type data is included followed by a video area in which picture data representing a picture of said digital picture signal is included.

002020" 92026460

22. The method of claim 15, wherein said picture type data identifies a minimum number of frames between two frames encoded either by intrapicture or predictive coding and identifies a total number of frames in said group of pictures represented by said digital picture signal.

23. A method of processing an encoded digital picture signal, comprising the steps of:

decoding said encoded digital picture signal to produce picture type data representing a type of encoding of said encoded digital picture signal and to produce a decoded digital picture signal, said picture type data identifying a previous encoding structure of a group of pictures represented by said encoded digital picture signal and further identifying each respective picture within said group of pictures represented by said decoded digital picture signal so as to identify the previous type of encoding for each picture represented by said decoded digital picture signal; and

including said picture type data in a data identification area of said decoded digital picture signal to produce an output signal.

24. The apparatus of claim 23, wherein said step of including is carried out by including said picture type data in a data identification area of at least a vertical blanking interval of said decoded digital picture signal to produce said output signal.

25. The method of claim 23, further comprising the step of encoding said decoded digital picture signal as a function of said picture type data.

26. The method of claim 23, wherein said digital picture signal includes an ancillary area in which said picture type data is included followed by a video area in which picture data representing a picture of said digital picture signal is included.

27. The method of claim 23, wherein said picture type data identifies a minimum number of frames between two frames encoded either by intrapicture or predictive coding and identifies a total number of frames in said group of pictures represented by said digital picture signal.

* * * * *

002020" 92026460

002020-0226-020200

28. An encoding apparatus for encoding source video data which had previously been encoded at a previous encoding process and had previously been decoded at a previous decoding process, said apparatus comprising:

means for receiving said source video data;

means for extracting coding information from said source video data, wherein said coding information relates to a coding operation of said previous encoding process; and

means for encoding said source video data in accordance with said coding information.

29. An encoding method for encoding source video data which had previously been encoded at a previous encoding process and had previously been decoded at a previous decoding process, the method comprising the steps of:

receiving said source video data;

extracting coding information from said source video data, wherein said coding information relates to a coding operation of said previous encoding process; and

encoding said source video data in accordance with said coding information.

30. An encoding apparatus for encoding source video data, said apparatus comprising:

means for receiving said source video data, wherein said source video data had previously been encoded at a previous encoding process, and for receiving coding information

relating to a coding operation of said previous encoding process;
and

means for encoding said source video data in accordance
with said coding information.

31. An encoding method for encoding source video data,
the method comprising the steps of:

receiving said source video data, wherein said
source video data had previously been encoded at a previous
encoding process, and for receiving coding information relating
to a coding operation of said previous encoding process; and

encoding said source video data in accordance with
said coding information.

32. An encoding apparatus for encoding source video
data, said apparatus comprising:

means for receiving a plurality of pictures within
said source video data, wherein said plurality of pictures had
previously been encoded at a previous encoding process;

means for receiving picture coding type indicating
which of I-picture, P-picture or B-picture had been associated
with said previous encoding process; and

means for encoding each of said pictures so that
each picture is encoded by using the same picture coding type as
said picture coding type of said previous encoding process.

33. An encoding method for encoding source video data,
the method comprising the steps of:

receiving a plurality of pictures within said source video data, wherein said plurality of pictures had previously been encoded at a previous encoding process;

receiving picture coding type indicating which of I-picture, P-picture or B-picture had been associated with said previous encoding process; and

encoding each of said pictures so that each picture is encoded by using the same picture coding type as said picture coding type of said previous encoding process.

34. A decoding apparatus for decoding an encoded bit stream which had been encoded at a previous encoding process, said apparatus comprising:

means for decoding said encoded bit stream to generate decoded video data in accordance with coding information relating to a coding operation of said previous encoding process;

means for multiplexing said decoded video data and said coding information to generate multiplexed data; and

means for transmitting said multiplexed data so that said coding information will be used in a later encoding process.

35. A decoding method for decoding an encoded bit stream which had been encoded at a previous encoding process, the method comprising the steps of:

decoding said encoded bit stream to generate decoded video data in accordance with coding information relating to a coding operation of said previous encoding process;

multiplexing said decoded video data and said coding information to generate multiplexed data; and

transmitting said multiplexed data so that said coding information will be used in a later encoding process.

36. A decoding apparatus for decoding an encoded bit stream which had been encoded at a previous encoding process, said apparatus comprising:

means for decoding said encoded bit stream to generate decoded video data;

means for multiplexing said decoded video data and coding information relating to a coding operation of said previous encoding process; and

means for transmitting the multiplexed data so that said coding information will be used in a later encoding process.

37. A decoding method for decoding an encoded bit stream which had been encoded at a previous encoding process, the method comprising the steps of:

decoding said encoded bit stream to generate decoded video data;

multiplexing said decoded video data and coding information relating to a coding operation of said previous encoding process; and

transmitting the multiplexed data so that said coding information will be used in a later encoding process.

002020" 92026460

38. A decoding apparatus for decoding an encoded bit stream which had been encoded at a previous encoding process, said apparatus comprising:

means for extracting coding information from said encoded bit stream, wherein said coding information relates to a coding operation of said previous encoding process;

means for decoding said encoded bit stream to generate decoded video data in accordance with said coding information; and

means for transmitting said decoded video data and said coding information so that said coding information will be used in a later encoding process for said decoded video data.

39. A decoding method for decoding an encoded bit stream which had been encoded at a previous encoding process, the method comprising the steps of:

extracting coding information from said encoded bit stream, wherein said coding information relates to a coding operation of said previous encoding process;

decoding said encoded bit stream to generate decoded video data in accordance with said coding information; and

transmitting said decoded video data and said coding information so that said coding information will be used in a later encoding process for said decoded video data.

40. A decoding apparatus for decoding an encoded bit stream which had been encoded at a previous encoding process, said apparatus comprising:

means for extracting coding information from said encoded bit stream, wherein said coding information relates to a coding operation of said previous encoding process;

means for decoding said encoded bit stream to generate decoded video data; and

means for transmitting the decoded video data and said coding information so that said coding information will be used in a later encoding process for said decoded video data.

41. A decoding method for decoding an encoded bit stream which had been encoded at a previous encoding process, the method comprising the steps of:

extracting coding information from said encoded bit stream, wherein said coding information relates to a coding operation of said previous encoding process;

decoding said encoded bit stream to generate decoded video data; and

transmitting the decoded video data and said coding information so that said coding information will be used in a later encoding process for said decoded video data.

42. A decoding apparatus for decoding an encoded bit stream which had been encoded at a previous encoding process, said apparatus comprising:

means for extracting picture coding type from said encoded bit stream, wherein said picture coding type indicates which of I-picture, P-picture, or B-Picture had been associated with said previous encoding process;

means for decoding each picture within said encoded bit stream to generate decoded video data; and

means for transmitting said decoded video data and said picture coding type so that each said picture will be encoded by using the same picture coding type as said picture coding type in a later encoding process for said decoded video data.

43. A decoding method for decoding an encoded bit stream which had been encoded at a previous encoding process, the method comprising the steps of:

extracting picture coding type from said encoded bit stream, wherein said picture coding type indicates which of I-picture, P-picture, or B-Picture had been associated with said previous encoding process;

decoding each picture within said encoded bit stream to generate decoded video data; and

transmitting said decoded video data and said picture coding type so that each said picture will be encoded by using the same picture coding type as said picture coding type in a later encoding process for said decoded video data.

002020" 92026450

44. A coding system for performing a decoding process and an encoding process to an encoded bit stream which had been encoded at a previous encoding process, the system comprising:

decoding means for decoding said encoded bit stream to generate decoded video data, and for outputting coding information relating to a coding operation of said previous encoding process; and

encoding means for encoding said decoded video data based on said coding information transmitted from said decoding means.

45. A coding method for performing a decoding process and an encoding process to an encoded bit stream which had been encoded at a previous encoding process, the method comprising the steps of:

decoding said encoded bit stream by use of a decoder to generate decoded video data and outputting coding information relating to a coding operation of said previous encoding process; and

encoding said decoded video data based on said coding information transmitted from said decoder.

46. A coding system for performing a decoding process and an encoding process to an encoded bit stream which had been encoded at a previous encoding process, the system comprising:

decoding means for decoding said encoded bit stream to generate decoded video data;

encoding means for encoding said decoded video data; and

means for controlling a coding operation of said encoding means in accordance with coding information relating to a coding operation of said previous encoding process.

47. A coding method for performing a decoding process and an encoding process to an encoded bit stream which had been encoded at a previous encoding process, the method comprising the steps of:

decoding said encoded bit stream to generate decoded video data;

encoding said decoded video data by use of an encoder; and

controlling a coding operation of said encoder in accordance with coding information relating to a coding operation of said previous encoding process.

002020-92046450